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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/054,253	01/22/2002	John E. Rode	0545024	3708

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EXAMINER

NGUYEN, XUAN LAN T

ART UNIT PAPER NUMBER

3683

DATE MAILED: 07/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/054,253

Applicant(s)

RODE, JOHN E.

Examiner

Lan Nguyen

Art Unit

3683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 10-12,15,17-23,26 and 27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9,13,14,16,24,25 and 28-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 9.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. It is noted that Applicant did not respond to the objection of claim 17 in the reply filed 12/17/03. This non-responsiveness to the objection is being treated as Applicant's wish to have claim 17 depending on claim 15 as presented in the amendment filed 12/17/03. Claim 17 is thereby withdrawn for depending on a withdrawn claim 15 for pertaining to non-elected embodiments.

Drawings

2. The drawings are objected to because they appear to be informal and are sufficient for examination purposes. Applicant is urged to provide formal drawings wherein the numeral references are typed instead of hand-written. Also, the notes "1/17, Rode, Docket No. 0545.024" need to be removed from each sheet of drawing. Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement

sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 16, 24 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Teeri.

Re: claim 16, Teeri shows an adjustable disc spring system as in the present invention, comprising: a plurality of beveled disc springs 1 axially aligned with an adjustable spacer 3; wherein spacer 3 is plastically compressible, see column 2, lines 57-60. Note that Teeri' uses metal as one of the materials for the spacer. Metal is compressible plastically or elastically depending on the amount of force being applied. Since claim 16 simply claims the spacer is plastically compressible. Teeri's metal spacer is capable of being plastically compressible.

Re: claims 24 and 25, as shown in the figures.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-6, 8, 9, 13, 14 and 28-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teeri in view of Rode (USP 4,067,585).

Re: claim 1, Teeri shows an adjustable disc spring system as in the present invention, comprising: at least one beveled disc spring 1 axially aligned with an adjustable spacer 3; wherein spacer 3 is compressible, see column 2, lines 57-60. Teeri shows the adjustable disc spring system with a metal spacer 3, which is relatively rigid, or with a rubber spacer 12, which is elastic. Note that both metal and rubber are capable of being plastically compressible. Teeri lacks the disclosure of the spacer being plastically compressible to allow axial adjustment in response to a force placed on said spacer. Rode teaches the concept of a plastically compressible adjustable spacer 18 wherein said spacer is compressed to plastically deform so that it can be adjusted to provide a desired load in the Abstract. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Teeri's adjustable disc spring to have included a spacer such as taught by Rode to provide a spacer that can accommodate a multitude of loads wherein in the first stage of compression, the spacer is being elastically deformed until the force is more than a predetermined value

Art Unit: 3683

then the spacer is plastically deformed and would remain relatively rigid afterward. By doing so, a modified spring system of Teeri would be able to accommodate a much wider range of loads as taught by Rode.

Re: claims 2-4, Teeri shows an entrapping flange comprises one curved surface concave to said disc spring and a curved compressible portion between said at least one entrapping flange on spacer 3 that is the mirror image of 7 on spacer 2.

Re: claims 5 and 6, Teeri discloses an offset as a tapered portion to receive at least one entrapping flange in column 2, lines 22-25.

Re: claims 8 and 9, as shown in the figures.

Re: claims 13 and 14, as shown in the figures.

Re: claims 28-32, Teeri shows a method of adjusting a disc spring system comprising: axially aligning at least one beveled disc spring 1 with a spacer 3 by inserting said disc spring into an entrapping flange wherein said disc is a Belleville washer; compressing the spacer 3 in column 2, lines 22-25. . Teeri shows the method of adjusting an adjustable disc spring system by providing a metal spacer 3 or an elastic spacer 12. Teeri lacks the disclosure of plastically compressing the spacer. Rode teaches the method of plastically compressing an adjustable spacer 18 so that it can be adjusted to provide a constant desired load in the Abstract. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Teeri's method of adjusting a disc spring system to have included the step of plastically compressing a spacer such as taught by Rode to achieve a constant desired load from the spacer after the compression in order to be able to use one type of spring system

for a wide range of loads instead of having to change out a metal spacer for an elastic spacer or vice versa.

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Teeri in view of Rode and further in view of Brecht.

Teeri's adjustable disc spring system, as rejected above in claim 1, lacks an axially protruding tip on said disc spring. Brecht teaches in figure 4, axially protruding tips 31 on a disc spring 1 as a way to secure two adjacent disc springs. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Teeri's disc spring system to have included axially protruding tips as taught by Brecht as a way to secure two adjacent disc springs without an extra retaining ring in order to save cost and time of installation.

Response to Arguments

8. Applicant's arguments with respect to claims 1, 7 and 29 have been considered but are moot in view of the new ground(s) of rejection.

9. The rejection of claims 16, 24 and 25 has been modified to meet the amendment to claim 16.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

Art Unit: 3683

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lan Nguyen whose telephone number is 703-308-8347. The examiner can normally be reached on M-F, 8 to 4:30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Lavinder can be reached on 703-308-3421. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3683

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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6/30/2007
MATTHEW C. GRAHAM
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